1/5

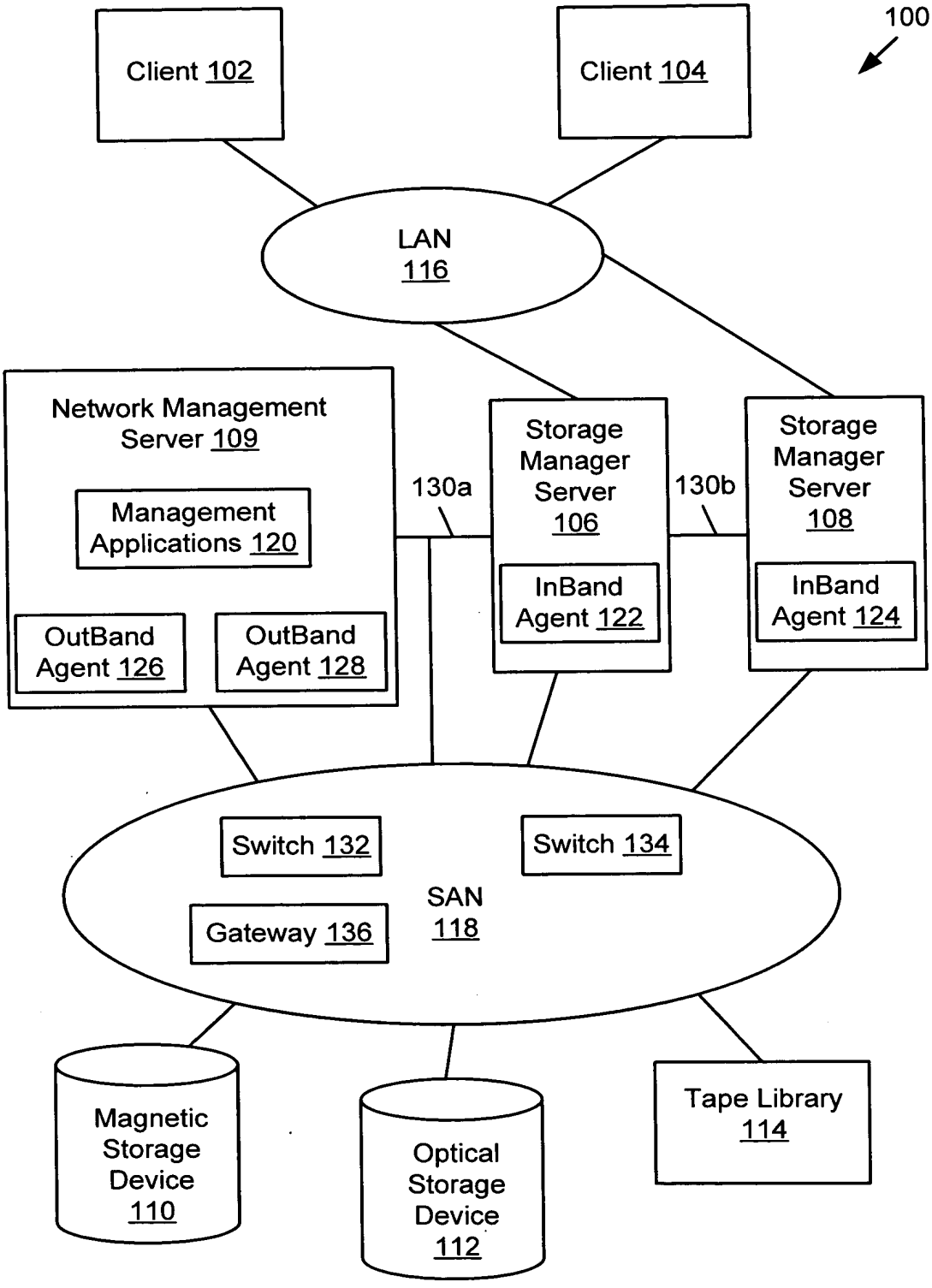
100
Client 102
Client 104
LAN
116
Network Management
Server 109
Management
Applications 120
OutBand
Agent 126
OutBand
Agent 128
130a
Storage
Manager
Server
106
InBand
Agent 122
130b
Storage
Manager
Server
108
InBand
Agent 124
Switch 132
Switch 134
SAN
118
Gateway 136
Magnetic
Storage
Device
110
Optical
Storage
Device
112
Tape Library
114

FIG. 1

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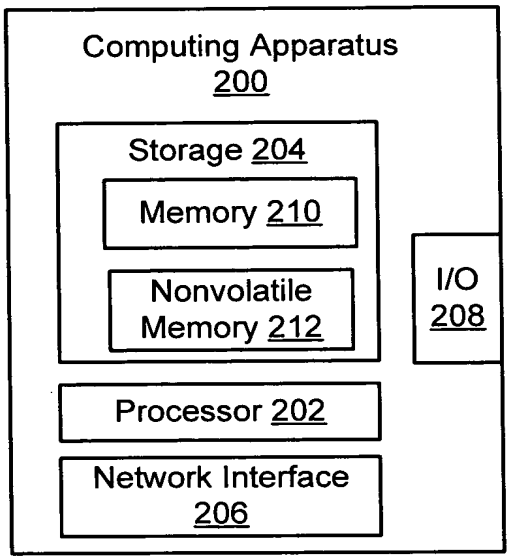
Computing Apparatus
200
Storage 204
Memory 210
Nonvolatile
Memory 212
I/O
208
Processor 202
Network Interface
206

FIG. 2

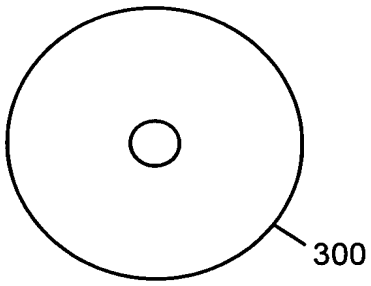
300

FIG. 3

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FIG. 4A

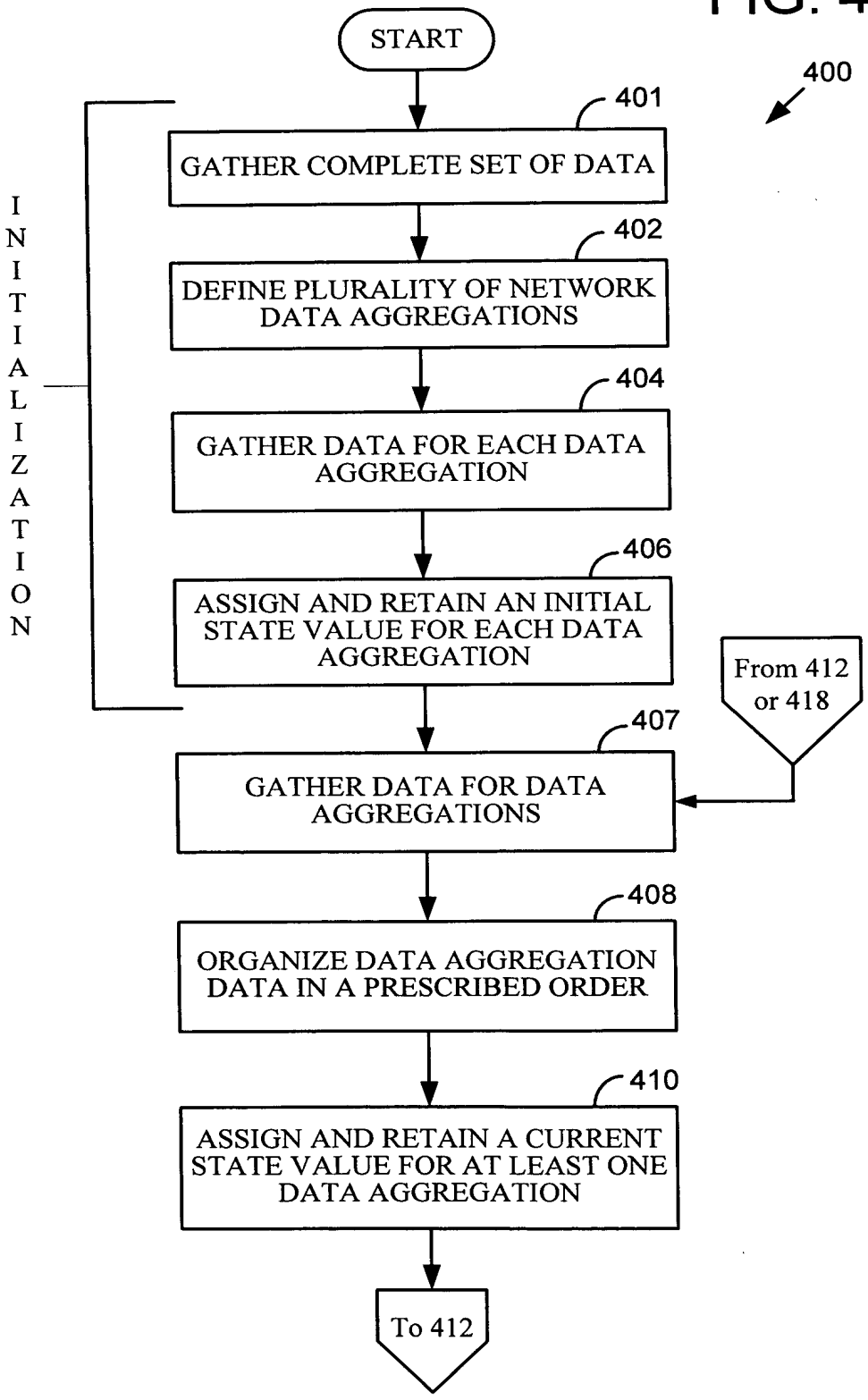
START
400
401
GATHER COMPLETE SET OF DATA
402
DEFINE PLURALITY OF NETWORK DATA AGGREGATIONS
404
GATHER DATA FOR EACH DATA AGGREGATION
406
ASSIGN AND RETAIN AN INITIAL STATE VALUE FOR EACH DATA AGGREGATION
INITIALIZATION
From 412 or 418
407
GATHER DATA FOR DATA AGGREGATIONS
408
ORGANIZE DATA AGGREGATION DATA IN A PRESCRIBED ORDER
410
ASSIGN AND RETAIN A CURRENT STATE VALUE FOR AT LEAST ONE DATA AGGREGATION
To 412

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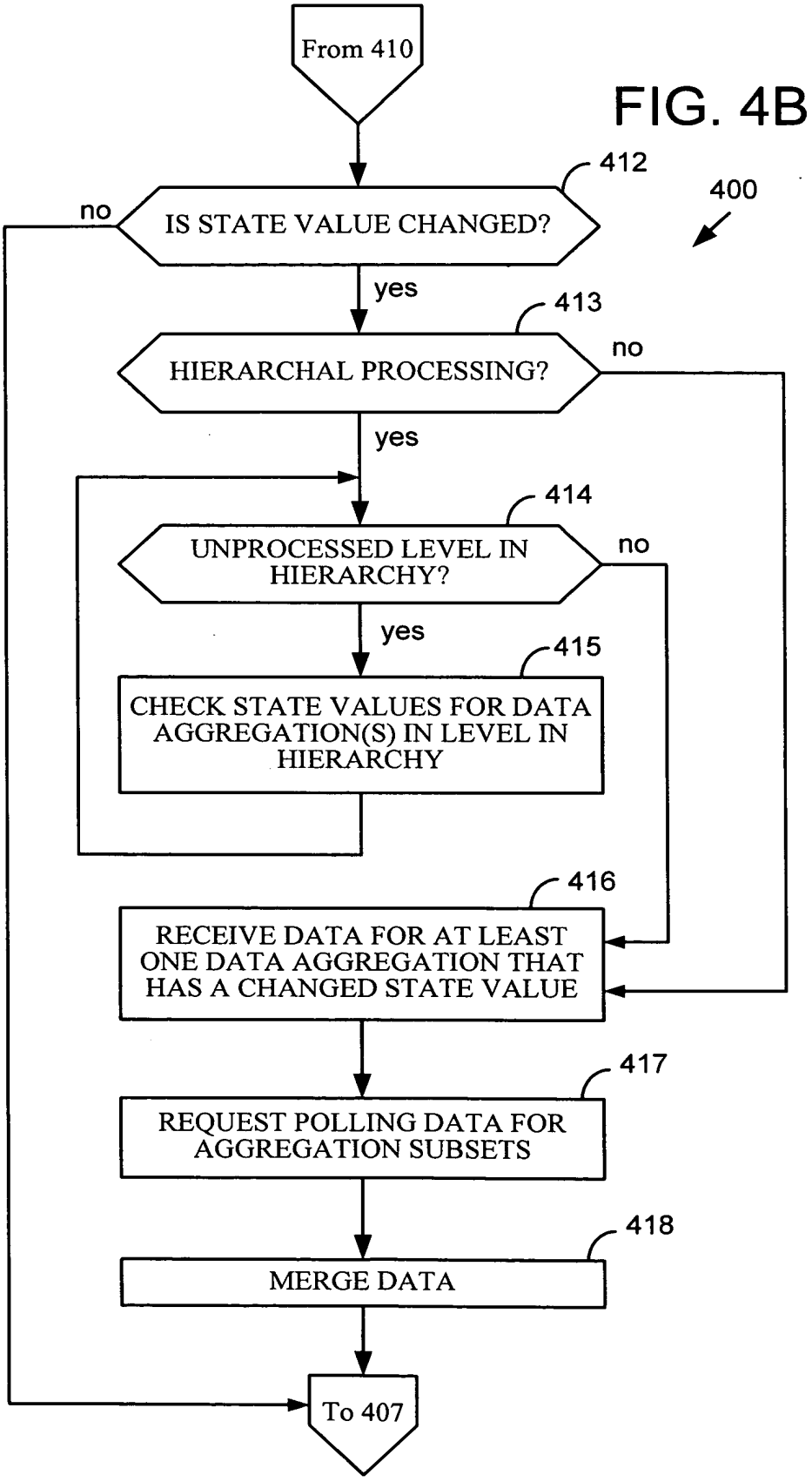
FIG. 4B


From 410
400
412
IS STATE VALUE CHANGED?
no
yes
413
HIERARCHAL PROCESSING?
no
yes
414
UNPROCESSED LEVEL IN HIERARCHY?
no
yes
415
CHECK STATE VALUES FOR DATA AGGREGATION(S) IN LEVEL IN HIERARCHY
416
RECEIVE DATA FOR AT LEAST ONE DATA AGGREGATION THAT HAS A CHANGED STATE VALUE
417
REQUEST POLLING DATA FOR AGGREGATION SUBSETS
418
MERGE DATA
To 407

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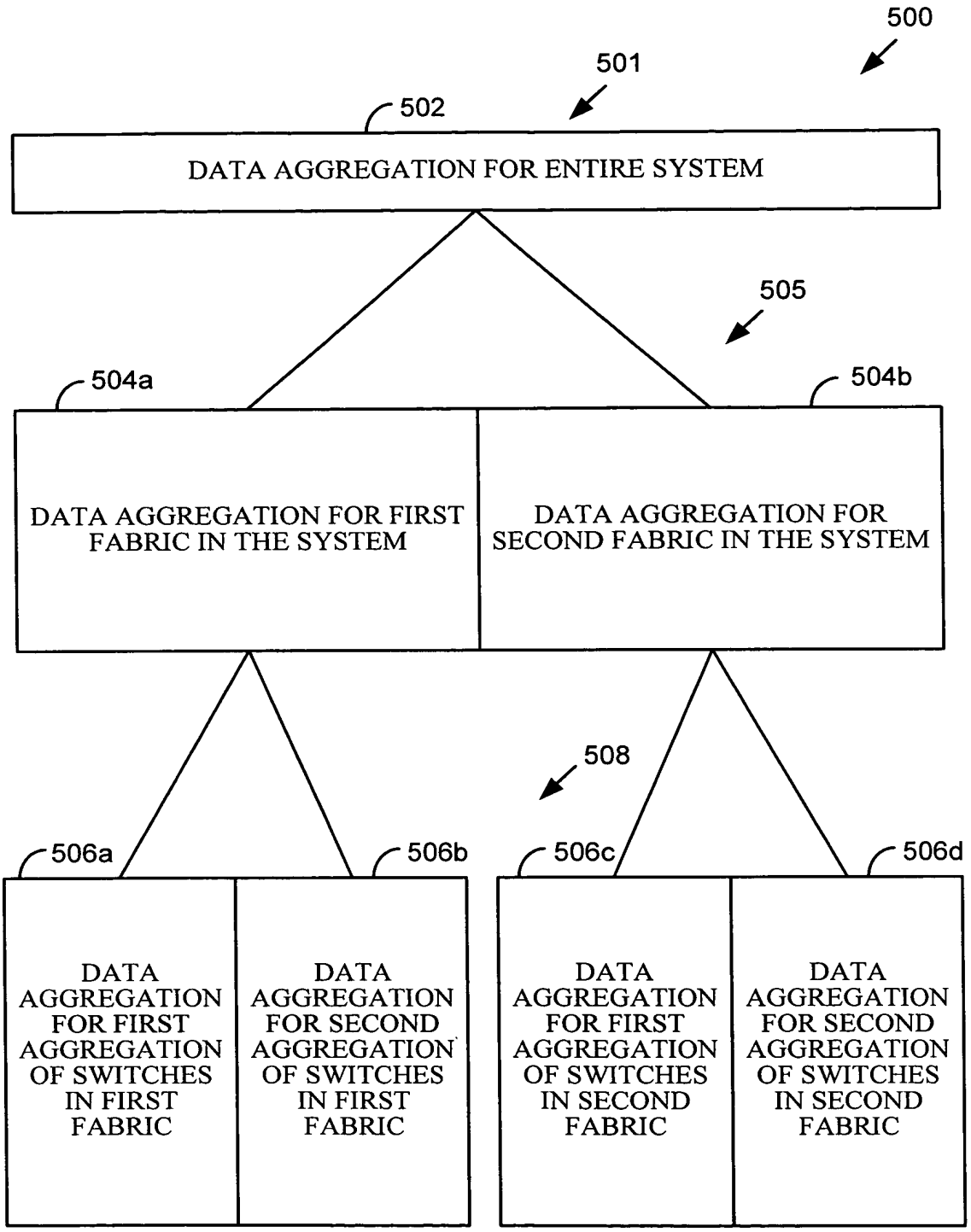
500
501
502
DATA AGGREGATION FOR ENTIRE SYSTEM
505
504a
504b
DATA AGGREGATION FOR FIRST FABRIC IN THE SYSTEM
DATA AGGREGATION FOR SECOND FABRIC IN THE SYSTEM
508
506a
506b
506c
506d
DATA AGGREGATION FOR FIRST AGGREGATION OF SWITCHES IN FIRST FABRIC
DATA AGGREGATION FOR SECOND AGGREGATION OF SWITCHES IN FIRST FABRIC
DATA AGGREGATION FOR FIRST AGGREGATION OF SWITCHES IN SECOND FABRIC
DATA AGGREGATION FOR SECOND AGGREGATION OF SWITCHES IN SECOND FABRIC

FIG. 5